generator of claim 1, wherein during operation the energy cell produces a compound comprising

(a) at least one neutral, positive or negative increased binding energy hydrogen species having a binding energy:

(i) greater than the binding energy of the corresponding ordinary hydrogen species, or

(ii) greater than the binding energy of any hydrogen species for which the corresponding ordinary hydrogen species is unstable or is not observed because the ordinary hydrogen species' binding energy is less than thermal energies at ambient conditions, or is negative; and

(b) at least one other element.

6. (Amended) The power source, power converter, and radio and microwave generator of claim 5 wherein said increased binding energy hydrogen species is selected from the group consisting of H_n, H_n^-, and H_n^+, where n is a positive integer, with the proviso that n is greater than 1 when H has a positive charge.

7. (Amended) The power source, power converter, and radio and microwave generator of claim 1 characterized in that during operation a compound is produced comprising an increased binding energy hydrogen species selected from the group consisting of (a) a hydride ion having a binding energy greater than the binding energy of the corresponding ordinary hydride ion for p = 2 up to 23 in which the binding energy is represented by

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½, π is pi, $\hbar$ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and *e* is elementary charge; (b) hydrogen atom having a binding energy greater than about 13.6 eV; (c) hydrogen molecule having a first binding energy greater than about 15.5 eV; and (d) molecular hydrogen ion having a binding energy greater than about 16.4 eV.

8. (Amended) The power source, power converter, and radio and microwave generator of claim 7 characterized in that the increased binding energy species is a hydride ion having a binding energy of about 3.0, 6.6, 11.2, 16.7, 22.8, 29.3, 36.1, 42.8, 49.4, 55.5, 61.0, 65.6, 69.2, 71.5, 72.4, 71.5, 68.8, 64.0, 56.8, 47.1, 34.6, 19.2 or 0.65 eV.

9. (Amended) The power source, power converter, and radio and microwave generator of claim 8 characterized in that the increased binding energy hydrogen species is a hydride ion having the binding energy:

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½, π is pi, $\hbar$ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and *e* is elementary charge.

10. (Amended) The power source, power converter, and radio and microwave generator of claim 5 characterized in that the increased binding energy hydrogen species is selected from the group consisting of

(a) a hydrogen atom having a binding energy of about 13.6 eV/$(1/p)^2$, where p is an integer;

(b) an increased binding energy hydride ion (H^-) having a binding energy of about

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½,π is pi, ħ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and e is elementary charge;

(c) an increased binding energy hydrogen species H_4^+ (1/p);

(d) an increased binding energy hydrogen species trihydrino molecular ion, H_3^+ (1/p), having a binding energy of about $22.6/(1/p)^2$ eV where p is an integer;

(e)an increased binding energy hydrogen molecule having a binding energy of about $15.5/(1/p)^2$ eV; and

(f) an increased binding energy hydrogen molecular ion with a binding energy of about $16.4/(1/p)^2$ eV.

EXPLANATION OF AMENDMENT:

The claims have been amended as shown by [deletions] and insertions.

4. (Amended) The power source, power converter, and radio and microwave generator of claim 1 wherein the electromagnetic radiation emitted from the ions is received by at least one resonant receiving antenna and delivered to an electrical load [such as a resistive load] or radiated as a source of radio or microwaves.

5. (Amended) The power source, power converter, and radio and microwave generator of claim 1, wherein during operation the energy cell produces a [A] compound [of claim 1] comprising

(a) at least one neutral, positive or negative increased binding energy hydrogen species having a binding energy:

(ii) greater than the binding energy of the corresponding ordinary hydrogen species, or

(ii) greater than the binding energy of any hydrogen species for which the corresponding ordinary hydrogen species is unstable or is not observed because the ordinary hydrogen species' binding energy is less than thermal energies at ambient conditions, or is negative; and

(b) at least one other element.

6. (Amended) The power source, power converter, and radio and microwave generator [A compound] of claim 5 [1] wherein said increased binding energy hydrogen species is selected from the group consisting of H_n, H_n^-, and H_n^+, where n is a positive integer, with the proviso that n is greater than 1 when H has a positive charge.

7. (Amended) The power source, power converter, and radio and microwave generator [A compound] of claim 1 characterized in that [the] during operation a compound is produced comprising an increased binding energy hydrogen species [is] selected from the group consisting of (a) a hydride ion having a binding energy greater than the binding energy of the corresponding ordinary hydride ion [(about 0.8 eV)] for p = 2 up to 23 in which the binding energy is represented by

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½,$\pi$is pi, ħ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and *e* is elementary charge; (b) hydrogen atom having a binding energy greater than about 13.6 eV; (c) hydrogen molecule having a first binding energy greater than about 15.5 eV; and (d) molecular hydrogen ion having a binding energy greater than about 16.4 eV.

8. (Amended) The power source, power converter, and radio and microwave generator [A compound] of claim 7 characterized in that the increased binding energy species is a hydride ion having a binding energy of about 3.0, 6.6, 11.2, 16.7, 22.8, 29.3, 36.1, 42.8, 49.4, 55.5, 61.0, 65.6, 69.2, 71.5, 72.4, 71.5, 68.8, 64.0, 56.8, 47.1, 34.6, 19.2 or 0.65 eV.

9. (Amended) The power source, power converter, and radio and microwave generator [A compound] of claim 8 characterized in that the increased binding energy hydrogen species is a hydride ion having the binding energy:

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½,π is pi, ħ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and *e* is elementary charge.

10. (Amended) The power source, power converter, and radio and microwave generator [A compound] of claim 5 [1] characterized in that the increased binding energy hydrogen species is selected from the group consisting of

(c) a hydrogen atom having a binding energy of about 13.6 eV/(1/p)^2, where p is an integer;

(d) an increased binding energy hydride ion (H^-) having a binding energy of about

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than 1, s = ½,π is pi, ħ is Plank's constant bar, μ_0 is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_0 is the Bohr radius, and e is elementary charge;

(c) an increased binding energy hydrogen species H_4^+ (1/p);

(e) an increased binding energy hydrogen species trihydrino molecular ion, H_3^+ (1/p), having a binding energy of about 22.6/(1/p)^2 eV where p is an integer;

(e)an increased binding energy hydrogen molecule having a binding energy of about 15.5/(1/p)^2 eV; and

(f) an increased binding energy hydrogen molecular ion with a binding energy of about 16.4/(1/p)^2 eV.

REMARKS

This communication is submitted in response to the pending Final Office Action dated July 29, 2002.

Claims1-209 are pending in the application.